RISK MANAGEMENT OVERVIEW - APM Project Pathway (Draft)

Risk should be defined as "An uncertain event that, should it occur, would have an effect (positive or negative) on the project or business objectives.

Therefore to be successful**, Risk Management** should be an integral part of project and business management techniques. Risk management relates to the formal process of ***'Identification'***, ***'Assessment'*** and subsequent ***'Management'*** of the ***'Threats'*** and ***'Opportunities'*** which face any endeavour.
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Related Topics Pathway:

Project Success Criteria	Value Management	Timescheduling/Phasing
Budget & Cost Control	Earned Value Management	Business Case
Communication		

INTRODUCTION & CONCEPTS

Risk Management is an integral feature of business and organisational culture and procedures. It must involve all levels of responsibility within an organisation, and be applied in a continuous and consistent manner, constantly moving forward as the project or business evolves. To succeed the risk management process must be treated with respect within an organisation and has to be implemented early to achieve the greatest effectiveness. The risk management process outlined in this chapter is a flexible process that can be tailored to reflect any type of endeavour equally applicable, to a project, programme, business assessment or management audit.

RISK MANAGEMENT JUST A PART OF PROJECT MANAGEMENT

Risk management is an integral part of good project management. It is an iterative process enabling continual improvement in rational decision-making. Risk management considered methods of identifying, analysing, assessing, managing, controlling and communicating risks associated with any activity, or operation in a way to minimise threats and maximise opportunities. It must always be remembered that risk management is as much about identifying and maximising opportunities as avoiding or mitigating threats.

Within the project management process, risks can be identified against work packages, requirement definitions, cost breakdowns, programme activities, and operations. Once risks have been assessed and appropriate risk management actions have been agreed, then these actions should be incorporated within the programme as specific packages of work and treated with the same priorities as other work packages.

THE PROCESS

Risk Management is the process of the identification of risk, its causes, effects and its ownership with a view to increasing overall understanding, in order to manage, reduce, transfer or eliminate threats and then to manage, maximise, enhance or develop opportunities.

The objectives of the risk process can be defined as:

- Definition of the key objectives and scope of the risk process and Risk Management Plan
- Identify risk issues through structured brainstorms, data gathering exercises and interviews
- Allocate responsibilities for each identified risk, to provide further details of background, consequence and management information
- Assess each risk against an agreed consistent scale for likelihood and potential consequence on project milestones, objectives and budgets.
- Compare risk significance to identify the top risks requiring urgent management attention
- Examine the distribution of risk to reveal common causes or areas of the project under particular threat or leading to opportunity
- Develop detailed management action plans and responses for each risk
- To provide a framework to Implement actions and monitor their effectiveness
- To provide a baseline for the risk process, allowing the risks to be re-evaluate and further threats and opportunities to beidentified.

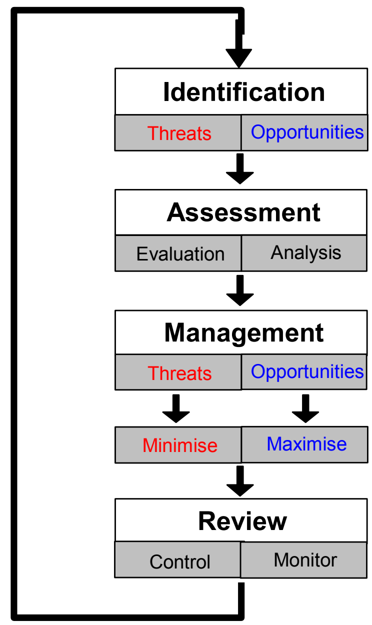


Figure 1 – Basic risk process

The whole process is usually repeated on a periodic basis to determine the effectiveness of the risk reduction measures and to reassess the level of risk which remains in the project. The frequency of this review process depends on the size of project, and can be monthly, quarterly etc. However, there should be a continuous exposure of risk information to the project team during meetings, briefings and project progress meetings.

The output of the process should include the Risk Management Implementation Plan, the risk register, conclusions and of course the identified risk management actions. A full formal risk management process is outlined in Figure 2.

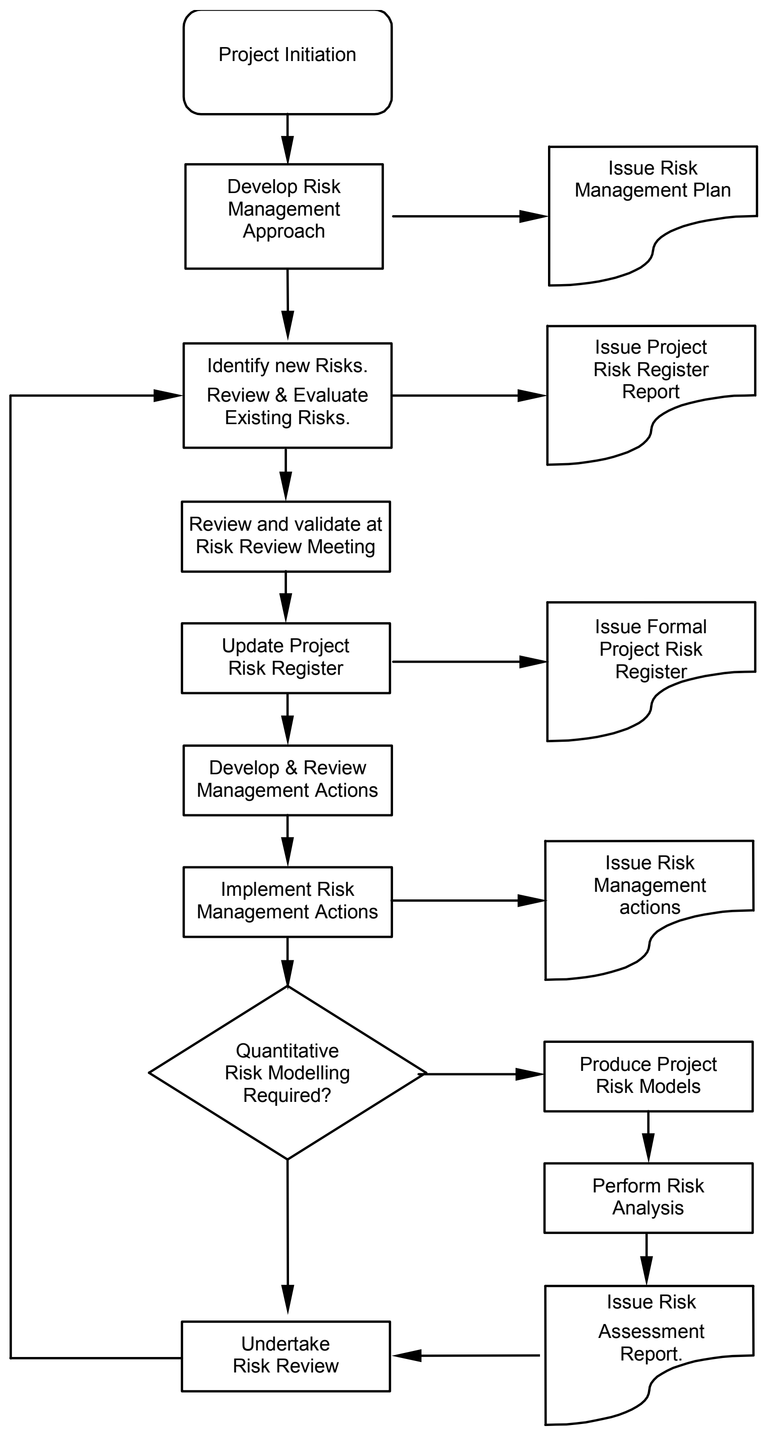


Figure 2 – Formal Risk Management Process

THE RISK MANAGEMENT IMPLEMENTATION PLAN

The first step in implementing risk management is to develop a risk management plan, this is done in much of the same way as the development of a quality or work plan.

The risk management plan identifies the procedures that the project or business will adopt to manage risk. The scope of the document covers the activities to be carried out by the Project Management Team and key stakeholders and their timescales throughout all phases of the project. It covers the identification, assessment, analysis, management and control of risk and also provides a basis for defining the risk management roles and responsibilities for each of the team members. The document can also list the risk management software tools and techniques to be used to support the risk process and how the process will be integrated into the project management culture.

RISK IDENTIFICATION & ASSESSMENT

Full risk management involves a comprehensive identification of all sources of risk, an objective assessment of their significance, planning of responses to the risks and management of the responses in order to achieve the desired outcome.

Identifying Risks

Good risk identification provides the starting point for effective Risk Management, key to this is to ensure that the risk identification is conducted accurately and consistently. At each stage of the project, risks to the timely and effective completion of each milestone should be identified. To aid risk identification a number processes and methods can be used, these include the use of;

- Project Documentation
- Brainstorms
- Structured interviews
- Assumptions
- Historical information and lessons learnt

Ideally as a bare minimum the following information should be recorded during the risk identification process.

A Short Title -	This briefly outlines the name of the risk and can be used as a reference in indexes.
High Level description of risk –	This should be no more than two sentences and concisely define the risks nature (often defined as cause and effect).
Background information –	This can be used to define links to related documentation or further information pertaining to the nature of the risk.
Consequence/Benefit –	A high level effect of the risk should be recorded to enable an understanding of whether the risk is a threat or opportunity and its impact to the project in terms of time, cost or performance etc, to aid the later qualitative assessment of the risk.
High level Strategy –	A defined strategy for the management of the risk, outlining the management objective and resource requirement.
Fallback Position –	A contingency response to address the risk should it occur, which aims to limit or control the consequence of the risk consequence.

Each risk must be assigned to a Risk Owner. The risk owner will be responsible for ensuring that the risk reduction and mitigation actions identified are performed in a timely and effective manner, and progress reported within the project team and as appropriate. This person should have the appropriate subject matter background, sufficient authority to ensure risk management actions will be pursued, and the necessary awareness of the project objectives.

Depending on the maturity of the risk process supplemental information can be recorded which may aid the definition of the risk. This can include triggers, those events which would lead to the risk occurring, dates of possible risk occurrence and strategy windows and possible secondary risks resulting from management actions.

METHODS OF IDENTIFYING RISKS

Documentation reviews.

Performing a structured and detailed review of the key project documentation provide an invaluable source of risk information. Documentation can include Work Breakdown Structures, cost plans, work instructions, business plans, project plan and tender documentation. Any documentation which is key to the project or sets the objectives should always be reviewed as a must.

Brainstorms

Brainstorming is a common risk identification technique and one of the most effective. The purpose of this technique is to obtain a comprehensive and high level list of risks which can be used as the starting point for the risk identification process.

When brainstorming, a meeting should be organised with key project stakeholders. The attendees are requested to identify the key threats, their concerns and possible opportunities. Sources of risks must be identified from as wide a scope as possible and posted for all to see and comment on. Brainstorming can be more effective if participants prepare in advance, the risk co-ordinator should develop a breakdown based on either project phase, scope, deliverables or risk categories. This documentation describing the goals of brainstorming meeting should be issued at least a week prior to the meeting.

Interviews

Risks can be identified using interview sessions held with the project stakeholders. These individuals should be drawn from all levels of the organisation and from all areas of the project, i.e. senior management, marketing, sales, development, design, etc to ensure the knowledge base is as wide as possible.

As the experience's of individuals within our organisation provides a wealth of knowledge relating to possible risks, it important for them to contribute. This also demonstrates that their perceptions and opinions are valued and will form a significant part of risk management activities. If individuals see that their involvement is included in the process they be prepared to contribute in the future and aid buy-in to the risk process.

Assumptions Analysis

During the initial stages of a project, the requirement and any specifications will be reviewed in order to identify areas of uncertainty. These are addressed by making assumptions (i.e. statements of belief concerning the outcome of future events) which will be recorded in a formal assumption list. Assumptions may cover such issues as provision of resources, information, equipment availability, functionality, or facilities. These assumptions if proved false may lead to risks and therefore must be addressed or at least considered. Assumptions can be made at any stage in the project lifecycle and at any level within the project team, and assumption management must therefore be undertaken continuously if all potential risks are to be identified.

Historical Information and lessons learned

Information or performance on prior projects, history and lessons learned from previous endeavours provide an extensive source of risk information. By recording the problems and benefits which were gained on previous projects then this can be used as a starting point or a prompt list to ensure similar or future projects gain from this experience.

Other Identification methods

Other methods which can be used to aid the process of risk identification can include undertaking SWOT (Strength and Weakness, Opportunity and Threat) analyses. This presents a structured approach in breaking down a project by questioning understanding. Inputs from other project management processes can also be used as risk source information. These can include HAZOP, safety studies, configuration documentation or change requests. Common risk prompt lists or generic risk listings can also be used to ensure all sources of risk are covered.

RISK ASSESSMENT

Risk Assessment is a qualitative process, concerned with identifying significant risks, through evaluation of the likelihood and consequence, in terms of time, cost and performance, and determining the causes of the risk, and establishing the timing of the risk.

The goal of Risk Assessment is to capture judgmental perceptions of risk in a structured way to obtain the most objective assessment possible. The key to a successful assessment is good communication, achieved by employing proven consistent techniques applied in a flexible and clear manner.

Assessing risks consistently

Risks should be assessed qualitatively to allow a consistent evaluation and prioritisation of the risks to be undertaken. This ensures that management attention is focussed on those risks that are most significant to the success of the project. To ensure a consistent approach is it is essential that a common basis for determining risk probability and impact is defined.

These assessment criteria can be developed for any size or scope of project. In general these criteria reflect a range of boundary values that can be used to consistently assess different perceptions of risk significance. An example of which is shown in Table 1, but actual values must be developed to the actual size and scope of the project.

The example in Table 1 employs 5 bands for Threat and Opportunity, this ensures that significant risks can be easily discriminated from those risks identified.

		Prob.	Timescale Impact	Cost Impact	Performance Impact	
Threat (loss)	VHI	70%- 100%	8 – 24 weeks	50K – 1M (£)	70%- 100%	Reduction in performance
	HI	50% - 70%	4 – 8 weeks	25 – 50 K (£)	50% - 70%	
	MED	30% -50%	2 – 4 weeks	10 – 25 K (£)	30% -50%	
	LO	10% - 30%	1 – 2 weeks	5 – 10 K(£)	10% - 30%	
	VLO	0% - 10%	0 - 1 week	0 – 5 K(£)	0% - 10%	
	Nil	0%	0	0	0%	
Opportunity (saving)	VLO	0% - 10%	0 - 1 week	0 – 5 K(£)	0% - 10%	Increase in Performance
	LO	10% - 30%	1 – 2 weeks	5 – 10 K(£)	10% - 30%	
	MED	30% -50%	2 – 3 weeks	10 – 25 K (£)	30% -50%	
	HI	50% - 70%	3 – 4 weeks	25 – 50 K (£)	50% - 70%	
	VHI	70%- 100%	4 – 10 weeks	50K – 1M (£)	70%- 100%	

Table 1 – Example risk assessment criteria

The assessment criteria used to assess the risk in terms of their probability of occurrence and likely impact then needs to be developed into a weighting system to allow the comparison of the risks. The score generated is in itself a dimensionless number, but it can then be used to identify the relative severity of the risk for the Project. Any weighting number can be used, however, it is recommended that the numbering system used places an emphasis on the impact of a risk rather that on its frequency. This ensures that those risks with a significant impact rate higher than those minimal impact risks with a greater frequency of occurrence.

0.72	0.36	0.18	0.09	0.05	VHI	Probability	VHI	0.05	0.09	0.18	0.36	0.72
0.56	0.28	0.14	0.07	0.04	HI		HI	0.04	0.07	0.14	0.28	0.56
0.40	0.20	0.10	0.05	0.03	MED		MED	0.03	0.05	0.10	0.20	0.40
0.24	0.12	0.06	0.03	0.02	LO		LO	0.02	0.03	0.06	0.12	0.24
0.10	0.08	0.04	0.02	0.01	VLO		VLO	0.01	0.02	0.04	0.08	0.10
VHI	HI	MED	LO	VLO				VLO	LO	MED	HI	VHI
Opportunity						Impact						Threat

HI >0.2
MED 0.1-0.2
LO <0.1

Table 2 – Example Probability - Impact weighting scales

It is important to ensure that assessments gained from individuals are as accurate and unbiased as possible. The assessment criteria should be always available at brainstorms or interview for reference. Schedule Impact is assessed as potential movement to key milestones dates. Cost Impact is based upon values of total project cost, and performance impact is based upon relevant technical parameters or objectives.

UNDERSTANDING RESULTS

The Project Risk Register

The Risk Register is a result of the risk assessment methodology adopted project team. The overall purpose of the Risk Register is to present a statement of the risks and their subsequent management actions to be faced during the course of the project or programme.

The risk register serves four main functions;

- Identifies risks and their likely impact upon the programme.
- Records the results of the risk assessment process and supporting discussions.
- Provides a basis for the management review of risks to the project.
- Documents proposed Risk Management action plans to be used to mitigate risks, and provides a basis for monitoring the progress of Risk Management action.

Risk Register Format

Risks which are perceived to be facing the project are contained within the register as individual risk records. The risk records themselves usually consist of two parts. Part One provides details of the risk and Part Two describes the management response to the risk.

The register is also supported by an index which precedes the register records. The risk register index identifies the Project and its current status, outlines the risk records held within the register and dictates the order in which they appear. The index details a short title to give a brief description of the risk as well as the status, significance and timescale information.

The format of the risk register should be tailored to reflect the reporting structure used within the project. It is however recommended that the register reflect's the information outlined in Figure 3.

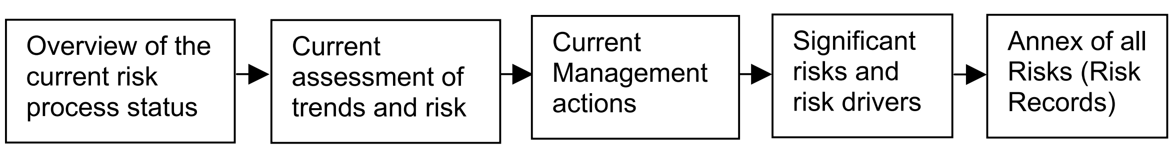


Figure 3 – Risk Register data

MANAGEMENT OF RISK

The objective of risk management is to manage those risks associated with the project in advance of their occurrence. Risk Management may requires that some risks be avoided completely by changing the project approach, absorbing some risks within financial or schedule float and preparing fallback plans for those critical areas which cannot be resolved in advance. In addition management activities will be required to ensure risk opportunities are realised.

Risk management planning must to be carried out regularly throughout the course of the project and reviewed to ensure validity and effectiveness. Risk planning enhancements should then be undertaken following these reviews if either the current risk management strategy is deemed to be ineffective in or the situation has evolved.

The Risk Owner will be responsible for ensuring that the risk reduction and management actions identified are performed in a timely and effective manner by their Actionee's, and progress reported to the Risk Manager and Project Manager as appropriate.

Methods Of Managing Risk (Threats)

There are four basic methods of mitigating Threats:

Risk Avoidance – Eliminate the cause of uncertainty that first introduced the risk.

Risk Reduction – Target key areas or drivers in order to reduce the severity of the impact. It can also be undertaken by applying a contingency budget or slack into the programme. It aims to reduce a risk to an ‘acceptable’ level.

Risk Transfer – Seek to place liability on a third party should the risk occur.

Risk Acceptance – The process of managing a risk by making a judgement that the risk is at an acceptable level. It may be that the benefits of attempting to reduce the risk further are outweighed by the costs of implementing mitigation actions. The risk is then continually monitored to ensure that any escalation is captured and appropriate strategies are then implemented. It is vital that all accepted risks have a viable fallback plan.

Methods Of Managing Risk (Opportunity)

There are four basic methods of managing Opportunities:

Risk Develop – Clarify the cause of uncertainty that first introduced the risk to ensure the risk is realised.

Risk Enhance – Targets key areas or drivers in order to increase the severity of the impact.

Risk Share – Seek to share the benefit with a third party should the risk occur and use the realised benefits are used to give incentives to partners.

Risk Ignore – The process of managing a risk by making the judgement that the risk is at a level where the return on the risk management investment does not make it cost effective to pursue. The risk is then continually monitored to ensure that if in the future it becomes viable, the appropriate strategies are implemented.

DEVELOPING EFFECTIVE STRATEGIES (SMART RISK MANAGEMENT)

It is important that we develop appropriate management actions. This means developing actions that are neither too detailed or too general to be of use. A risk management action has to be a task that is both measurable and realistic to achieve. Known as SMART risk management an action must be ***specific*** to the issue we seek to address. ***Measurable*** in terms of the perceived goal, ***achievable*** and ***realistic,*** not impossible to achieve and will have tangible results. Finally, the action must be ***timed***, a predefined window of opportunity in which the risk can be addressed.

SMART Risk Management

Specific
Measurable
Achievable
Realistic
Timed

"The entire management process needs to be proactive. In addition the results and benefits of successful management actions need to be seen by all"

Figure 4 – SMART Risk Management

Fallback planning

Contingency plans and Fallback scenarios are those strategies which are implemented when a risk has or is about to occur. These strategies are kept as contingencies and fallbacks in the event that the primary risk mitigation strategies fail to produce the desired reduction in risk exposure. Contingency plans represent viable alternatives and fallback measures usually accept some degree of loss.

RISK ANALYSIS

Quantitative Risk Analysis is aimed at evaluating the effects which the identified risks could have on the project cost or timescale. Such analyses will expose uncertainties in schedule or cost estimates caused by risk, and can be used to test the extent to which project plans might meet programme milestones or commercial targets.

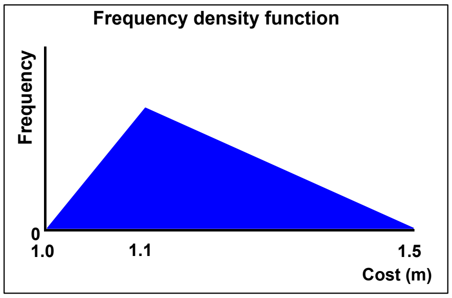
Monte-Carlo type analysis provides the mechanism for this by conducting many thousands of simulated project outcomes using the identified uncertainty, incorporating the risks assigned from the Risk Register and further uncertainty estimates applied to network activities and cost items. Risk should, in practice be modelled outside the baseline estimate. By giving a risk a likelihood of occurrence and then modelling it as a discrete event will lead to a more realistic and optimistic analysis.

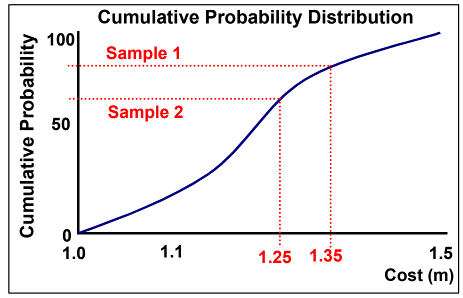
The results of these analyses can be presented in various ways. For example, total cost or time estimates can be plotted against probability of achievement; criticality indices can be produced for each activity showing the probability that each will be on the critical path and show when risks are most likely to impact. The benefit of using Monte Carlo analysis when assessing risk and uncertainty is that it allows for the consideration of all potential project outcomes. This includes consideration all issues and comparisons of alternative solutions. Therefore, the effect of project alternatives on the overall level of risk and project uncertainty can then be fully understood. In addition the analysis may direct the project team to uncertain areas of a project, and lead to the firming of requirements.

Monte Carlo Analysis

Monte Carlo analysis refers to the technique for using random or pseudo-random numbers to sample from a probability distribution. Traditionally, analyses combine single 'point' estimated of a models uncertainty to predict a single result. In reality however, things often just don't turn out the way they are planned.

Monte Carlo sampling techniques are entirely random, ie; any given sample may fall within the uncertainty range of the given input distribution. Monte Carlo sampling will 'recreate' the input distribution using this sampling'





Consider an activity that is most likely to cost £1.1 million but could cost as little as £1 million or as much as £1.5 million, this uncertainty could be represented by the frequency density function above. Monte Carlo analysis would then represent this function as a cumulative probability function and generate a random number between 0 and 1 (0% to 100%). For each random number or sample a corresponding cost will be returned eg; sample 1 returns £1.35 million and sample 2 returns £1.25million. All these samples are possible activity costs. This process allows the recreation of thousands of potential project outcomes to be analysed. These results can then be combined together for all activities to produce an overall Cumulative Probability Distribution (S-Curve) for the entire project, from this the results and confidence levels can be predicted.

Software tools which perform Monte Carlo analysis are now available which allow a project to be analysed thousands of times within a couple of minutes. These tools use probability distributions to describe uncertainty values. There are many forms and types of probability distributions, each of which describes a range of possible values and their likelihood of occurrence. Most people have heard of a normal or triangular distributions, but there are a wide variety of distribution types. These "distribution" functions can be placed in worksheet cells as formulas. Once placed analysis results such as profit, turnover and baseline cost results can then be generated in the form of S-Curves and probability distributions.

The results from this type of Risk Analysis, the output probability distributions, give the user a complete picture of all the possible project outcomes. This is a tremendous improvement on the "worst-expected-best" case analysis commonly used. The resulting probability distribution (S-Curve) does in fact provide more than just filling in the gaps between the best case – worse case:

They determine a "Correct" Range of outcomes because the uncertainty associated with every cost element has been more rigorously. They show a "Probability of Occurrence", a probability distribution showing the relative likelihood of occurrence for each possible project outcome in the predict range the confidence level of achieving it.

Cost risk analysis

All projects have a budget, and most have some form of cost breakdown structure detailing the breakdown of the cost items that make up the budgetary figure. However these costs are very rarely fixed costs and are subject to some form of inherent uncertainty. In addition to this are the risks identified in the Risk Register, some of which may have an identified cost consequence. The undertaking of a cost risk analysis permits uncertainty in the baseline cost estimates to be modelled whilst taking account of the potential consequence of these cost risks.

Uncertainty in the estimates is incorporated by representing the cost estimates in the cost breakdown structure by a spread of values rather than by a single figure and modelled by a distribution function. In the same way the cost impact of each risk can be modelled as a distribution with a separate probability of occurrence. This information is compiled into a cost risk model. The model undergoes a simulation which is a series of recalculations or iterations, each time sampling different values from the various distributions, see Figure 5.

Work Package	WBS code	Line item	Estimated cost	Uncertainty Low	Uncertainty M/L	Uncertainty High	Value
Design	1.1.1	Concept Design	2,500,000	2,250,000	2,500,000	2,550,00	=DistributionFunction(Low,M/L,High)
	1.1.2	Preliminary Design	500,000	200,000	250,000	500,000	=DistributionFunction(Low,M/L,High)
	1.1.3	Interface Design	1,000,000	500,000	1,000,000	2,000,000	=DistributionFunction(Low,M/L,High)
	1.1.4	High level Design	35,000	10,000	50,000	50,000	=DistributionFunction(Low,M/L,High)
Procurement	2.1.1	Issue ITT Structure and frame	200,000	200,000	300,000	500,000	=DistributionFunction(Low,M/L,High)
	2.1.2	Review ITT returns	350,000	120,500	300,000	350,000	=DistributionFunction(Low,M/L,High)
	2.1.3	Procure Part A	750,000	700,000	750,000	1,000,000	=DistributionFunction(Low,M/L,High)
Construction	3.1.1	Stepform walls	1,200,000	1,200,000	1,300,000	1,250,000	=DistributionFunction(Low,M/L,High)
	3.1.3	Construct mounting	750,000	700,000	750,000	1,000,000	=DistributionFunction(Low,M/L,High)
		Deterministic Total	7,285,000			baseline sum	= Total

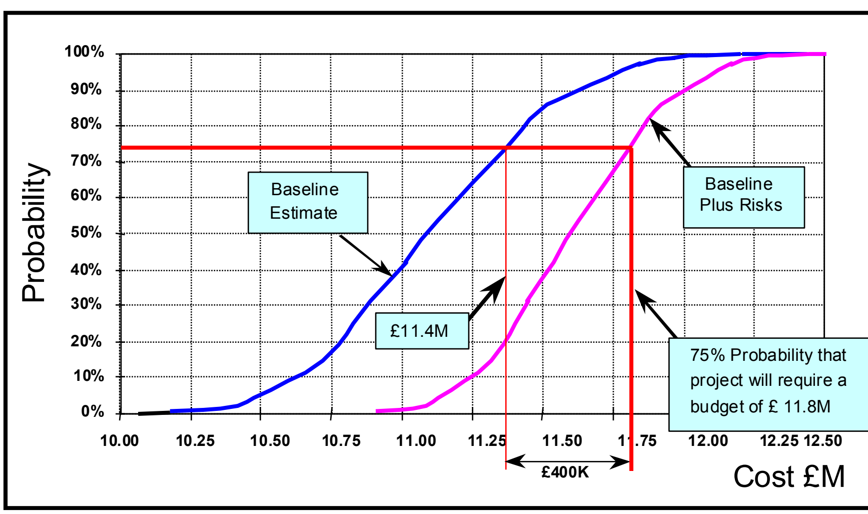
Probability driver

Index Number	RiskTitle	Prob	Low	M/L	High	Risk occurs	Value
13.35	Unavailability of Facility for construction work	50%	250,000	2,500,000	3,000,000	TRUE	=DistributionFunction(Low,M/L,High)
02.43	Interference from Internal Organisations	70%	100,000	250,000	500,000	FALSE	0
02.05	Failure in Design/Manufacture of Gate	10%	500,000	1,000,000	2,000,000	FALSE	0
08.07	Procurement of long lead items	10%	10,000	50,000	300,000	TRUE	=DistributionFunction(Low,M/L,High)
09.05	Unsuitable Construction Method statements	30%	100,000	300,000	500,000	FALSE	0
08.15	Availability of Skilled Labour	30%	12,500	500,000	750,000	TRUE	=DistributionFunction(Low,M/L,High)
						Risk Sum	= Total

Project Total = Risk Sum + Baseline Sum

<u>Figure 5 – Example Cost Risk Model</u>

A picture of all the possible total costs is created by summing up the individual items in the cost breakdown structure during each iteration. This information can then be used to see if particular total cost has occurred, and hence estimate the likelihood of this cost occurring in reality, See Figure 6.

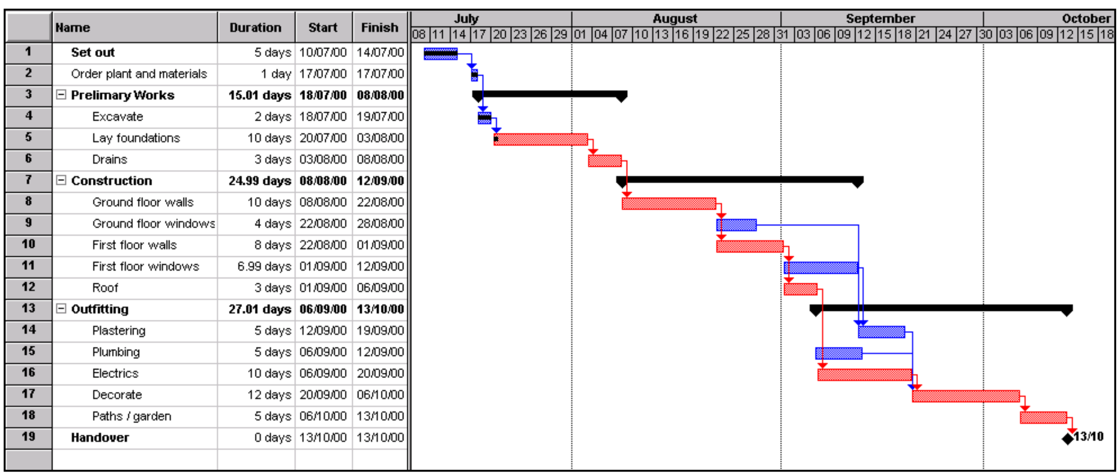


<u>Figure 6 – Cost Risk Analysis results</u>

The information resulting from this type of analysis can then be used to generate the 'Risk Provision' fund and help aim project cost understanding and substantiate bid prices or budgetary requirements.

Schedule Risk Analysis

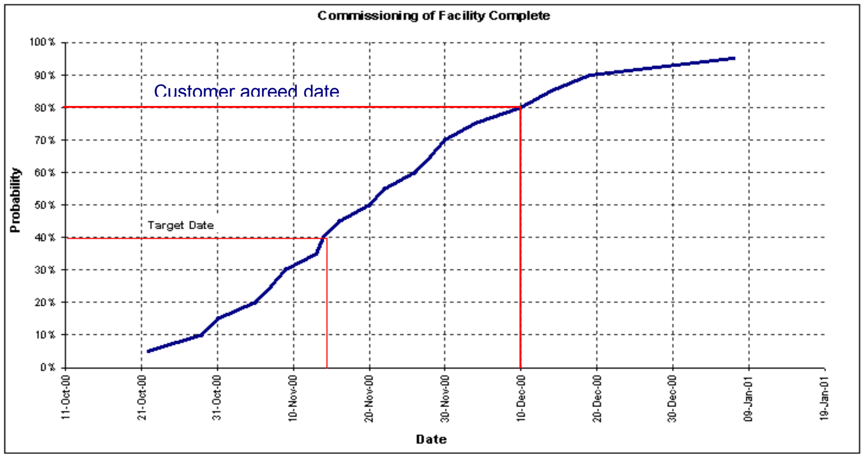
A schedule risk analysis is a quantitative analysis of the variability of project schedules including the effects of identified risks and variation in planning data. It indicates the spread and likelihood of possible project milestone dates. Every project is subject to deadlines and time constraints. To enable these deadlines to be met, projects normally have some form of programme or plan, indicating the inter-relationships between the various tasks of a project and the duration each task. Milestones will be incorporated in the plan at strategic points, indicating dates that are of interest, deadlines etc. Activity durations are rarely fixed, as there is normally some uncertainty about how long each activity will take. Further uncertainty is added by the risks identified in the Risk Register, each of which may have a possible time impact. A schedule risk analysis permits uncertainty in the baseline duration figures and task relationships to be modelled whilst taking account of the potential impact of the risks. Uncertainty in the estimates is incorporated by representing the duration figures in the project plan by using a spread of values. The information is compiled into a schedule risk model, see Figure 7.



<u>Figure 7 – Schedule Risk Model</u>

This model then undergoes a simulation each time sampling different values from the various duration distributions. . As the durations of the tasks in the plan change, each milestone date in the plan is recalculated. This information can then be used to see if particular date has occurred, and hence estimate the likelihood of this date occurring, see Figure 8.

%	Date
5%	22-Oct-00
10%	29-Oct-00
15%	31-Oct-00
20%	05-Nov-00
25%	07-Nov-00
30%	09-Nov-00
35%	13-Nov-00
40%	14-Nov-00
45%	16-Nov-00
50%	20-Nov-00
55%	22-Nov-00
60%	26-Nov-00
65%	28-Nov-00
70%	30-Nov-00
75%	04-Dec-00
80%	10-Dec-00
85%	14-Dec-00
90%	19-Dec-00
95%	07-Jan-01



<u>Figure 8 – Schedule Risk Analysis results</u>

Promoting buy-in and encouraging commitment

Risk management is not just about processes and methodologies, its about people, their perceptions and their involvement. The key to successful risk management and in fact any process is commitment and communication, it is therefore necessary to ensure will we either develop or enhance a risk management process that encourages contribution from all involved in the project or business endeavour.

People, the risk process and its shortfalls

Some risk management process which on paper appear to be well thought out often fail due to a lack of commitment by stakeholders. **'Involvement'** is key when it comes to developing a successful process. It is essential to talk to stakeholders right from the start, then at all stages of our endeavour Encouraging contribution demonstrates that their perceptions and opinions are valued and will form a significant part of our management activities.

Techniques to gain involvement

Highlighting the benefits of involvement is core to the risk process, this means naming successful individuals in Board meetings, management team reviews and in dispatches. Increasing the visibility of risk management within the work place is also crucial. This highlights that risk management is taken seriously and is important. Improvement in risk can be seen by placing 'Risk Posters' around the project office. These posters are simple, they list the key risks, both the threats and opportunities and highlight their owner and management activity. This acts as a reminder to the issues driving the project. Successes such as risks avoided, opportunities realised and management activities completed should be highlighted.

Corporate Governance

The Turnbull Guidance on internal controls for companies listed on the London stock exchange states that the board should conduct such a review of the risks facing their organisation. In general terms the report states that:

- A company should be aware of the risks they face
- Be aware of the extent and likelihood of these risks
- Have identified the appropriate management strategies
- Ensure management action are implemented and evaluated

This re-iterates the risk management process, therefore the result of the risk identification, assessment and management can be used to help satisfy the corporate governance requirement.

Conclusion & Summary

It is important that risk management is applied early in a project's lifecycle and an appropriate process implemented to allow risk to be identified, assessed, mitigated and monitored. As the project evolves risk management should be used to anticipate how decisions affect the project. The risk management process needs to be supported at all levels within the project team. Actionees must be encouraged to pursue mitigation actions within required timescales. Risk owners must be aware of their risks and have the forum to raise these issues so that the project team gains visibility of any potential problems or opportunities. Managers and management must be proactive and have the necessary authority to respond rapidly to risk. If decisions can not be made in a timely manner then opportunities will be missed and the affect of delays will cascade throughout the project. Therefore the benefits of risk management include:

- Greater understanding of project or business objects or goals
- More realistic business and project planning
- Improved management of project and business costs
- More effective communication within an organisation

It must always be remembered that the key to risk management is **Management!** The process will fail if commitment and contribution is lacking and risks are not efficiently identified, assessed and pursued to their conclusion.

Further reading

1: Internal Control - A Guidance for Directors on the Combined Code, The Institute of Chartered Accountants in England & Wales (www.icaew.co.uk/internalcontrol), September 1999

2: British Standard 6079-1:2000, 6079-2:2000, 6079-3:2000 Project Management, British Standard institute, 15 January 2001

3: Project Risk Analysis & Management Guide, Association of Project Managers, 1997

Biography

Karl Davey CEng MIEE is the product manager of the 'Active Risk Manager' an endeavour Wide web based integrated risk management system. Karl has extensive experience in the application of proactive risk management solutions across organisations and on major projects, both in the defence and commercial sectors. Other assignments include the development and use of risk contingency for major capital works programmes and on PFI projects. Karl is experienced in developing methods to promote risk management buy-in within an organisation though increasing communication and increasing involvement. He has also lectured on Risk Management and has provided proven risk management training for universities and clients in the UK, North America, Australia, New Zealand and Japan.

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Final Version is available as part of the APM's Project Pathways Publication, available from the Association of Project Managers.

http://www.apm.org.uk/pub/pmpath.htm